THE IMPACT OF FOREIGN BANK ENTRY ON DOMESTIC BANKING MARKETS: A NOTE

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SOM-Theme E: Financial markets and institutions

Abstract

Claessens, *et al.* (2001) empirically investigate the impact of foreign bank entry on domestic banking markets. They show that foreign bank entry reduces income, profits and costs of domestic banks. They conclude that foreign entry improves the functioning of national banking markets through increased market competition and improved efficiency of domestic banks. We redo their analysis using data of domestic banks in LDCs only and generally find opposite results: foreign entry leads to increases of income, profits and costs. This suggests that foreign bank entry may have a different impact on domestic banking markets in developed and developing countries. Moreover, we find evidence for an inverted U-shaped relationship between foreign bank entry and domestic bank performance, indicating that for banks in these countries competition and efficiency effects only take place after the extent of foreign bank entry has reached a certain minimum level.

JEL classification: E44, G21
Key words: foreign banking, domestic banking markets

1. INTRODUCTION

In many countries, and especially in less developed countries (LDCs), the presence of foreign banks has increased dramatically, particularly during the 1990s (IMF, 2000). Among other things, these increases in foreign bank operations are due to the fact that since the early 1990s many countries have implemented financial liberalisation policies, allowing foreign banks to set up branches and allow domestic banks to be foreign. The fast growth of operations of foreign banks has raised questions about the consequences of their presence for domestic banking markets. In the theoretical literature basically three major consequences have been discussed. First, foreign banks will affect competition. Second, they will influence the efficiency of domestic banks. Third, they will have an impact on the stability of the domestic banking system. Yet, there is only limited empirical evidence on these consequences.[1]

To date, the only comprehensive study is provided by Claessens, *et al.* (2001), published in *The Journal of Banking and Finance*. This study focuses on the competition and efficiency effects of foreign bank entry.[2] In their analysis, they use a large data set obtained from BankScope, containing individual bank accounting information of both foreign and domestic banks in 80 developed and developing countries during the 1988-1995 period. Based on this information, Claessens, *et al.* (2001) carry out an empirical analysis focussing on changes of variables that measure income, profitability and costs of domestic banks. Changes in these variables are supposed to reflect changes in competition and efficiency of domestic banking markets. They find a negative relationship between foreign bank presence and domestic bank profitability, non-interest income and overhead expenses. When they look at shares of foreign banks in total bank

[1] See Dages, Goldberg and Kinney (2000), IMF (2000), Mathieson and Roldos (2001), and Hermes and Lensink (2002) for surveys of the impact of foreign bank entry on the domestic financial system.

[2] A small number of country case studies has been carried out on the competition and efficiency effects of foreign entry; see Cho (1990) on Indonesia, Denizer (2000) on Turkey, and Barajas, *et*

assets, they find no relationship between this variable and the domestic bank variables. According to Claessens, *et al.* (2001, p.906) this supports the view that foreign bank presence, rather than the size of these banks (in terms of market share), is associated with rising competition and greater efficiency in domestic banking markets. This view can be explained as follows. First, the entry of foreign banks puts pressure on domestic banks to give up their previously high income and profits. Moreover, it puts pressure on domestic banks to become more efficient, which reduces costs. Finally, foreign bank entry also reduces costs of domestic banks, since the latter may copy modern banking techniques and practices.

While Claessens, *et al.* (2001) pool the information on domestic banks of developed and developing in their empirical analysis, in this paper we redo the analysis of Claessens, *et al.* (2001), using only data for LDCs to see whether the results presented in their article still hold for this subsample of countries. The remainder of this paper is organised as follows. Section 2 discusses the data and methodology we use in our own study on this issue. Section 3 presents the results of our empirical analysis, which appear to be strikingly different from those found by Claessens, *et al.* (2001). In section 4 we provide an initial attempt to explain the results we find. Section 5 concludes and provides topics for future research.

2. DATA AND METHODOLOGY

In order to be able to investigate the impact of foreign bank entry on domestic banks in LDCs, we first need variables that measure the presence of foreign banks in a host country. In line with Claessens, *et al.* (2001) we use two different variables to measure this. First, we take the number of foreign banks to the total number of banks in the host country (*FBNUM*). This measure basically looks at the sheer presence of foreign banks. Second, we use the share of foreign bank assets to total bank assets of the host country

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al. (2000) on Colombia. See Dages, *et al.* (2000) for empirical evidence on the impact foreign bank entry has on the stability of the domestic banking system.

(*FBSHR*). This measure takes into account the size of foreign banks as compared to their domestic counterparts. Both variables are calculated using the BankScope data base.[3]

Next, we construct variables used by Claessens, *et al.* (2001) reflecting income, profits and costs of domestic banks in LDCs:

- Two variables reflecting income of banks: net interest rate margin to total assets (*NMARGIN*) and net non-interest income to total assets (*NINTINC*).
- A measure reflecting profitability of banks: before tax profits to total assets (*BTPROF*).
- Two measures reflecting costs of banks: total overhead costs to total assets (*OVERHEAD*) and loan loss provisioning to total assets (*LLPROV*).

Changes in these variables may, among other things, be explained by changes in foreign bank presence. Again, information on these variables is from the BankScope data base. From the data base we use information of domestic banks in LDCs for which at least three observations are given for the 1990-1996 period, providing us with a reasonable (time series) coverage for every individual bank.[4] This leaves us with a data set of 143 domestic banks, covering 26 LDCs.[5]

The model is defined as follows (Claessens, *et al.*, 2001, p.905):

$$\Delta I_{ijt} = \alpha_0 + \beta \Delta FS_{jt} + \gamma_i \Delta B_{it} + \delta_j \Delta X_{jt} + \varepsilon_{ijt} \qquad (1)$$

where I_{ijt} is a vector of the five variables of interest for bank i in country j at time t, FS_{jt} represents one of the two variables measuring foreign bank entry in country j at time t, B_{it} is a set of bank specific variables for bank i at time t, and X_{jt} is a set of country specific variables for country j at time t. The B and X variables are included as control variables

[3] The data base was kindly provided to us by Stijn Claessens.

[4] We also carried out the analysis based on a data set containing banks that have at least five observations. The results of this alternative analysis are qualitatively similar and are available on request from the authors.

[5] See Appendix II for a list of countries.

and are taken from Claessens, *et al.* (2001, p.906). The bank specific variables used the estimations are the short- and long-term deposits plus other non-deposit short-term funding to total assets (*CSTFUN*) the book value of equity (assets minus liabilities) to total assets (*EQUITY*) and cash, non-interest earning deposits at other banks, and other non-deposit short term funding to total assets (*NINTASS*). The country-specific variables included in the estimations are annual growth rate of GDP (*GROWTH*), annual inflation rate (consumer prices) (*INFL*), and real GDP per capita in US dollars (*RGDPPC*).[6]

All equations are estimated in first differences. Country dummies and time dummies are taken into account. In order to control for differences in the amount of banks per country taken into account in the estimates, all variables for a particular country are weighted by the amount of domestic banks.

3. RESULTS OF THE EMPIRICAL ANALYSIS

Table 1 presents our results of our empirical analysis using *FBNUM* as the variable measuring foreign bank entry. The results show that foreign bank presence is positively related to net interest rate margins, overhead costs, and loan loss provisions, whereas we find a negative relationship for profits and non-interest rate income. This indicates that foreign bank entry increases costs and reduces profits of domestic banks in LDCs. The results with respect to income are ambiguous.

<INSERT TABLE 1>

Table 2 presents the results using *FBSHR* as the foreign bank variable. The Table shows that non-interest income, profits and overhead costs are positively related to foreign bank entry, whereas for loan loss provisioning and the net interest rate margin we do not find a

[6] We did not include the change in the real interest rate as a control variable, since we were unable to find sufficient data for this variable for most LDCs.

statistically significant relationship. This suggests that profitability is positively affected by foreign entry, whereas for income and costs the results seem to be more ambiguous.

<INSERT TABLE 2>

Our results differ quite remarkably from those presented in Claessens, *et al.* (2001). First, we find statistically significant results for both indicators of foreign bank entry. Second, in six out of ten cases we find evidence for a positive relationship between foreign bank entry and domestic bank performance. Claessens, *et al.* (2001), however, only find results for one indicator of foreign bank entry (*FBNUM*) and the results they find show that there is a negative relationship between foreign bank presence and domestic bank profitability, non-interest income and overhead expenses. From our results no clear pattern occurs with respect to the influence of foreign bank entry on domestic bank performance: the positive impact on costs appears to be quite robust, the results for income and profitability are more ambiguous (see Table 3).

<INSERT TABLE 3>

On the basis of a comparison of our results with those of Claessens, *et al.* (2001) we come to the following conclusion. The fact that the results based on the sample of only LDCs are strikingly different from results based on the sample including both LDCs and developed countries may suggest that the impact of foreign bank entry on domestic banking markets is different for developed and developing countries.

4. EXPLAINING OUR RESULTS: IS THE RELATIONSHIP NON-LINEAR?

As an initial attempt to explain these results we explore whether the relationship between foreign bank entry and domestic bank performance has non-linear properties. In our view, foreign bank entry may have both positive and negative effects on income, profitability

and costs of domestic banks. Moreover, these effects may differ between domestic banks in developed and developing countries.

- As explained in Claessens, *et al.* (2001), foreign bank entry has competition and efficiency effects: more competition means lower income, profits and higher efficiency, which leads to lower costs; technology spill-overs also lead to lower costs. These effects may hold for banks in developed and developing countries.
- Technology spill-overs of new banking techniques and better management practices may initially lead to rising costs, since domestic banks have to invest in such techniques and practices in order to implement them. Technology spill-overs are generally more important for domestic banks in LDCs due to the lower level of development of banks and banking systems in these countries.
- The impact of these new techniques and practices on income and profits depends on the extent of competition in the market: with lower competition and higher efficiency domestic banks may be able to increase both income and profits. Domestic banking markets are generally more segmented in LDCs as compared to these markets in developed countries. Therefore, competition may be weaker in the banking market.
- Increased competition from foreign banks may weaken the loan portfolios of domestic banks, which may increase the need for high loan-loss provisioning, *i.e.* higher costs. This effect may be stronger for domestic banks in LDCs due to the smaller base of the loan portfolio of these banks, which means that they have fewer possibilities to diversify their risks as compared to banks in developed countries.

Thus, foreign bank entry may have both positive and negative effects, especially in the case of domestic banks in LDCs. It seems warranted to investigate whether the relationship between foreign bank entry and domestic banks is non-linear for banks in these countries. In particular, we posit that, at least for LDCs, foreign bank entry has a positive effect on domestic banks at low levels of foreign bank numbers and/or market shares, whereas it has a cost-, income- and profit-reducing impact on domestic bank activities only after foreign bank numbers and/or market have reached a certain minimum

level. At low levels of foreign bank numbers and/or market shares in domestic banking markets the positive effects of spill-overs on profitability, costs and income outweigh the negative effects of increased competition on these variables: spill-over effects are more important for banks in LDCs than for banks in developed countries, while due to stronger market segmentation in banking markets in LDCs as compared to developed countries, the effect of increased competition will be less strong initially. As foreign bank numbers and/or market shares increase the competition effect will outweigh the spill-over effects after some threshold value of foreign bank entry has been reached.

The way to test for a non-linear relationship between foreign bank entry and domestic bank performance is to add a quadratic term of *FBNUM* and *FBSHR* to the equations presented in Tables 1 and 2. If we find a positive and significant linear term in combination with a negative and significant quadratic term for *FBNUM* and *FBSHR*, this suggests that the effect of foreign bank entry on domestic banks is described as an inverted-U curve.

We substantiate our premise of the existence of an inverted-U shaped relationship between foreign bank entry and income, profits and costs as follows. Initially, as foreign bank entry is relatively low (both in numbers and/or in market shares), domestic banks may nonetheless profit from spill-overs of modern bank techniques and practices. For these spill-overs to work foreign bank numbers and/or market shares are less important. Yet, domestic banks need to make investments to implement these techniques and practices. Therefore, costs rise. At the same time, since domestic banks still have a relatively strong market power in the domestic market, they are able to raise interest rate margins and non-interest rate income to pay for the investments made. Thus, their overall income, and possibly also profits, rises. Although foreign bank entry may lead to competitive pressures on domestic banks, this effect is initially cancelled out. Yet, after the foreign bank numbers and/or market share has reached a minimum level, the competitive pressure argument starts to dominate the positive effects on income, profits and costs. Domestic banks no longer have enough market power to raise margins and

tariffs on non-interest earning activities. Thus, their income and profits fall. Moreover, they feel the need to reduce costs and become more efficient in an effort to reduce the loss of market shares as much as possible.

Tables 4 and 5 present the results of the analysis including quadratic terms for *FBNUM* (Table 4) and *FBSHR* (Table 5).[7] In Table 4 in three out of five cases we find evidence for the existence of an inverted-U shaped relationship between foreign bank presence and domestic bank performance. In particular, such a relationship appears to exist for both income variables (*NMARGIN* and *NINTINC*) and for loan loss provisioning (*LLPROV*). While the coefficients of the linear terms of these variables are positive and statistically significant, the coefficients of the quadratic terms of these variables are negative and statistically significant.

<INSERT TABLE 4>

Also in Table 5 in three out of five cases we find evidence for the existence of an inverted-U shaped relationship between the foreign bank share and domestic bank performance (*NMARGIN*, *OVERHEAD* and *LLPROV*). In the other two case we find a simple positive relationship between both variables.

<INSERT TABLE 5>

To summarise, the results in both Tables seem to suggest that an inverted-U curve exists for income and costs, whereas no inverted-U shaped relationship can be found for the profitability variable (*BTPROF*) due to conflicting outcomes for this particular variable (see Table 6). These results suggest that the cost- and income-reducing effects of

[7] The threshold values have not been reported in the paper to save space. They can be obtained from the authors on request, however.

increased competition and efficiency only take place after the extent of foreign bank entry has reached a certain minimum level.

<INSERT TABLE 6>

5. CONCLUDING REMARKS AND FURTHER RESEARCH

The main aim of our paper was to analyse whether the results of Claessens, *et al.* (2001) on the impact of foreign bank entry on domestic bank performance also hold when using only observations form banks in LDCs. Interestingly, we find rather different results: in most cases the relationship between foreign bank entry and domestic banks appears to be positive. The comparison of our results with those of Claessens, *et al.* (2001) suggests that the impact of foreign bank entry on domestic banking markets may be different for developed and developing countries.

We also hinted at providing an explanation of our results and investigated whether the relationship between foreign bank entry and domestic banking markets has an inverted-U shape. Our results indicated that such a relationship may exist for income and costs, which might suggest that the cost- and income-reducing effects of increased competition and efficiency only take place after the extent of foreign bank entry has reached a certain minimum level.

Further research is needed to pin down more carefully the exact nature of the impact of foreign bank entry on domestic banks in both developed countries and LDCs separately. First of all this requires more data. Moreover, better measures of the competition and efficiency effects of foreign bank entry on domestic banks may help. Changes in aggregate measures of income, profits and costs are only rough and imprecise indicators of such effects.

REFERENCES

Barajas, Adolfo, Natalia Salazar, and Roberto Steiner, "Foreign Investment in Colombia's Financial Sector", in: Stijn Claessens and Marion Jansen (eds.), *The Internationalization of Financial Services: Issues and Lessons for Developing Countries*, Dordrecht and Boston: Kluwer Academic Press, 2000.

Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine, "A New Database on the Structure and Development of the Financial Sector", *World Bank Economic Review*, 14, 3, 2000, pp. 597-605.

Cho, Kang Rae, "Foreign Banking Presence and Banking Market Concentration: The Case of Indonesia", *The Journal of Development Studies*, 27, 1, 1990, pp. 98-110.

Claessens, Stijn, Asli Demirguc-Kunt, Harry Huizinga, "How Does Foreign Entry Affect Domestic Banking Markets?", *Journal of Banking and Finance*, 25, 5, 2001, pp. 891-911.

Dages, B. Gerard, Linda Goldberg, and Daniel Kinney, "Foreign and Domestic Bank Participation in Emerging Markets: Lessons from Mexico and Argentina", *Federal Reserve Bank of New York Economic Policy Review*, September, 2000, pp. 17-36.

Denizer, Cevdet, "Foreign Bank Entry in Turkey's Banking Sector, 1980-1997", in: Stijn Claessens and Marion Jansen (eds.), *The Internationalization of Financial Services: Issues and Lessons for Developing Countries*, Dordrecht and Boston: Kluwer Academic Press, 2000.

Easterly, William, and H. Yu, Global Development Network Growth Database, Washington DC: The World Bank, 1999.

Hermes, Niels, and Robert Lensink, "The Impact of Foreign Bank Entry on Domestic Banks in LDCs: An Econometric Analysis", in: Tadeusz Kowalski, Robert Lensink and Vello Vensel (eds.), *Foreign Bank Entry and Economic Transition*, Poznan: Poznan University Press, 2002, forthcoming.

International Monetary Fund, *International Capital Markets: Developments, Prospects and Key Policy Issues*, Washington DC: IMF, 2000.

Mathieson, Donald J., and Jorge Roldos, The Role of Foreign Banks in Emerging Markets, Paper prepared for the IMF-World Bank-Brookings Institution Conference on Financial Markets and Development, 19-21 April, 2001, New York.

APPENDIX I: LIST OF VARIABLES AND DATA SOURCES

BTPROF	= before tax profits to total assets
CSTFUN	= short- and long-term deposits plus other non-deposit short-term funding to total assets
EQUITY	= book value of equity (assets minus liabilities) to total assets
FBNUM	= number of foreign banks to total number of banks in the host country
FBSHR	= the share of foreign bank assets in total banking sector assets
GROWTH	= annual growth rate of GDP
INFL	= annual inflation rate (consumer prices)
LLPROV	= loan loss provisioning to total assets
NINTAS	= cash, non-interest earning deposits at other banks, and other non-deposit short term funding to total assets
NINTINC	= non-interest income to total assets
NMARGIN	= interest income minus interest expense to total assets
OVERHEAD	= personnel expenses and other non-interest expenses to total assets
RGDPPC	= real GDP per capita in US dollars

All individual bank level variables are taken from the BankScope data base. *FBSHR* and *FBNUM* are obtained from the data set related to Beck, *et al.* (2000) and available on the website of the World Bank. The other individual bank level data are taken from the data set, which was kindly provided to us by Stijn Claessens.

GROWTH, *INFL* and *RGGPPC* are taken from Easterly, William, and H. Yu, *Global Development Network Growth Database*, Washington DC: The World Bank, 1999; The data were taken from the following website of the World Bank:

http://www.worldbank.org/html/prdmg/grthweb/gdndata/htlm. Inflation figures for Hong Kong and Romania were taken from World Bank Development Indicators (CD-ROM version).

APPENDIX II: LIST OF COUNTRIES

Below we list the LDCs for which we have used individual bank data of domestic banks to carry out the empirical analysis. The number of banks of which data were used in the analysis is indicated between brackets.

Latin America: Argentina (4); Bolivia (1); Brazil (8); Chile (12); Colombia (4); Costa Rica (1); Dominican Republic (2); Ecuador (5); Panama (2); Peru (1); Venezuela (9)

Eastern Europe: Czech Republic (3); Hungary (1); Poland (3); Romania (1)

Africa: Egypt (9); Morocco (3); Tunisia (1)

Asia: Hong Kong (2); India (29); Indonesia (5); Lebanon (2); Philippines (6); Saudi Arabia (5); Thailand (12); Taiwan (12)

Moreover, we provide information with respect to the number of observations used per bank. Note that the data relate to the 1990-1996 period.

	Number of banks	Number of observations per bank	Total number of observations
	1	7	7
	73	6	438
	36	5	180
	17	4	68
	16	3	48
TOTAL	143	-	741

Table 1: Foreign Bank Entry and Domestic Bank Performance: Number of Foreign Banks (*FBNUM*)

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBNUM	0.065 (5.10)*	-0.288 (-8.63)*	-0.366 (-12.49)*	0.098 (9.66)*	0.143 (5.99)*
EQUITY	0.193 (8.01)*	-0.018 (-0.29)	0.467 (8.49)*	0.088 (4.56)*	-0.293 (-6.51)*
NINTASS	0.005 (0.23)	0.047 (0.89)	-0.026 (-0.56)	-0.021 (-1.28)	0.077 (2.05)**
CSTFUN	0.007 (0.57)	-0.096 (-3.20)*	-0.006 (-0.21)	-0.003 (-0.34)	-0.084 (-3.90)*
OVERHEAD	0.623 (10.39)*	0.343 (2.20)**	-0.416 (-3.03)*		0.382 (3.41)*
*RGDPPC*100*	0.0018 (4.26)*	-0.0041 (-3.66)*	-0.002 (-2.10)**	0.0003 (0.96)	-0.0002 (-0.25)
*GROWTH*100*	-0.015 (-1.15)	0.162 (4.88)*	0.106 (3.64)*	-0.027 (-2.56)*	0.0413 (1.73)***
*INFL*100*	-0.0005 (0.23)	0.0011 (1.19)	0.006 (0.79)	-0.0004 (-1.55)	-0.0001 (-0.13)
RSS	0.0072	0.0492	0.0379	0.0049	0.0253
TSS	0.0136	0.0692	0.0736	0.0069	0.0352
WALD joint	0.000	0.000	0.000	0.000	0.000
WALD time	0.070	0.011	0.033	0.253	0.832
WALD country	0.000	0.000	0.000	0.000	0.000
number of obs.	598	598	598	598	598

NOTE: See appendix I for explanations of the abbreviations used. All equations are estimated in first differences. Only domestic bank observations have been used in the analysis. The analysis is based on data for 143 banks in 26 LDCs over the 1990-1996 period. Country dummies and time dummies are taken into account. In order to control for differences in the amount of banks per country taken into account in the estimates, all variables for a particular country are weighted by the amount of domestic banks. T-values are presented in parentheses. *) denotes significance at the 1 per cent level; **) denotes significance at the 5 per cent level; ***) denotes significance at the 10 per cent level.

Table 2: Foreign Bank Entry and Domestic Bank Performance: Share in Total Bank Assets (*FBSHR*)

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBSHR	0.018	0.100	0.119	0.071	-0.0004
	(1.14)	(2.28)**	(2.89)*	(5.26)*	(-0.01)
EQUITY	0.161	0.105	0.625	0.043	-0.359
	(6.71)*	(1.62)	(10.27)*	(2.12)**	(-7.91)*
NINTASS	0.003	0.033	-0.042	-0.031	0.078
	(0.14)	(0.59)	(-0.81)	(-1.81)***	(2.00)**
CSTFUN	0.015	-0.155	-0.080	0.005	-0.061
	(1.25)	(-4.90)*	(-2.69)*	(0.50)	(-2.76)*
OVERHEAD	0.724	-0.261	-0.080		0.640
	(12.04)*	(-1.60)	(-2.69)*		(5.63)*
*RGDPPC*100*	0.0016	-0.0035	-0.0013	-0.0002	-0.0006
	(3.59)*	(-2.95)*	(-1.15)	(-0.48)	(-0.79)
*GROWTH*100*	-0.0065	0.1527	0.0928	-0.011	0.053
	(-0.50)	(4.28)*	(2.78)*	(-0.95)	(2.15)**
*INFL*100*	-0.0004	0.0004	-0.0002	-0.0004	0.0002
	(-1.19)	(0.45)	(-0.20)	(-1.21)	(0.27)
RSS	0.0076	0.056	0.049	0.0055	0.0271
TSS	0.0136	0.069	0.074	0.0069	0.0351
WALD joint	0.000	0.000	0.000	0.000	0.000
WALD time	0.212	0.035	0.104	0.754	0.930
WALD country	0.000	0.000	0.000	0.000	0.000
number of obs.	598	598	598	598	598

NOTE: see note to Table 1.

Table 3: Summary of the Empirical Results Found in Tables 1 and 2

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBNUM	+	–	–	+	+
FBSHR	0	+	+	+	0

Table 4: Foreign Bank Entry and Domestic Bank Performance: Number of Foreign Banks (*FBNUM*), Non-Linear Relationship

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBNUM	0.116 (4.41)*	0.287 (4.69)*	-0.086 (-1.47)	0.029 (1.37)	0.490 (10.72)*
$FBNUM^2$	-0.106 (-2.26)**	-1.202 (-10.98)*	-0.584 (-5.59)*	0.138 (3.61)*	-0.723 (-8.87)*
EQUITY	0.193 (8.06)*	-0.0171 (-0.31)	0.468 (8.78)*	0.086 (4.50)*	-0.292 (-7.03)*
NINTASS	0.011 (0.53)	0.115 (2.46)*	0.007 (0.17)	-0.028 (-1.74)	0.118 (3.40)*
CSTFUN	0.016 (1.30)	0.006 (0.23)	0.044 (1.65)	-0.015 (-1.52)	-0.022 (-1.06)
OVERHEAD	0.645 (10.82)*	0.591 (4.25)*	-0.295 (-2.23)**		0.532 (5.13)*
*RGDPPC*100*	0.0021 (4.78)*	-0.0004 (-0.41)	-0.0003 (-1.47)	-0.0001 (-0.25)	0.0020 (2.56)*
*GROWTH*100*	-0.030 (-2.07)**	-0.0052 (-0.16)	0.0249 (0.78)	-0.0068 (-0.59)	-0.060 (-2.40)*
*INFL*100*	-0.0006 (-1.70)	0.0004 (0.49)	0.0003 (0.39)	-0.0003 (-1.24)	-0.0005 (-0.82)
RSS	0.00718	0.03896	0.03551	0.00473	0.02164
TSS	0.01360	0.06921	0.07359	0.00686	0.03516
WALD joint	0.000	0.000	0.000	0.000	0.000
WALD time	0.033	0.926	0.764	0.447	0.149
WALD country	0.000	0.000	0.000	0.000	0.000
number of obs.	598	598	598	598	598

NOTE: see note to Table 1.

Table 5: Foreign Bank Entry and Domestic Bank Performance: Share in Total Bank Assets (*FBSHR*), Non-Linear Relationship

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBSHR	0.086 (2.73)*	0.198 (2.31)**	0.147 (1.83)***	0.129 (4.92)*	0.136 (2.30)**
$FBSHR^2$	-0.177 (-2.51)*	-0.256 (-1.33)	-0.072 (-0.40)	-0.155 (-2.59)*	-0.360 (-2.70)*
EQUITY	0.167 (6.99)*	0.115 (1.76)***	0.628 (10.26)*	0.048 (2.38)*	-0.346 (-7.64)*
NINTASS	0.004 (0.19)	0.034 (0.61)	-0.042 (-0.80)	-0.030 (-1.74)***	0.080 (2.07)**
CSTFUN	0.014 (1.21)	-0.156 (-4.93)*	-0.080 (-2.70)*	0.004 (0.45)	-0.062 (-2.83)*
OVERHEAD	0.708 (11.80)*	-0.284 (-1.74)***	-1.184 (-7.73)*		0.608 (5.36)*
*RGDPPC*100*	0.0014 (3.33)*	-0.0036 (-3.04)*	-0.0013 (-1.18)	-0.0003 (-0.73)	-0.0009 (-1.05)
*GROWTH*100*	-0.0064 (-0.48)	0.153 (4.30)*	0.0929 (2.78)*	-0.0104 (-0.94)	0.0537 (2.17)**
*INFL*100*	-0.0005 (-1.45)	0.0003 (0.32)	-0.0002 (-0.24)	-0.0004 (-1.45)	0.000 (0.01)
RSS	0.0075	0.0557	0.0490	0.00546	0.02678
TSS	0.0136	0.0692	0.0736	0.00686	0.03516
WALD joint	0.000	0.000	0.000	0.000	0.000
WALD time	0.124	0.036	0.104	0..795	0.911
WALD country	0.000	0.000	0.000	0.000	0.000
number of obs.	598	598	598	598	598

NOTE: see note to Table 1.

Table 6: Summary of the Empirical Results Found in Tables 4 and 5

	NMARGIN	*NINTINC*	*BTPROF*	*OVERHEAD*	*LLPROV*
FBNUM / $FBNUM^2$	+/–	+/–	0/–	0/+	+/–
FBSHR / $FBSHR^2$	+/–	+/0	+/0	+/–	+/–